The Centre for the Social Study of Microbes Presents

Living With AMR: Novel Ways of Co-Habiting in a Resistant World

University of Helsinki
Fabianinkatu 24, Room 352
23rd May 2023 (0900 – 1745) and 24th May 2023 (0900 – 1700)

Summary

Whether it be practices with medicines and antimicrobials, or practices that facilitate resistance evolution and transmission, the magnitude of AMR abundance, prevalence and movement is determined by sociocultural, socioeconomic matters. Taking as its premise AMR as a biosocial phenomenon — shaped by and evolving within interpenetrating social and biological processes — the CSSM’s project SoSAMiRe (Social Study of Antimicrobial Resistance: Healthcare, Animals and Ethics) has focused on different modes of living with AMR in diverse settings and sectors. SoSAMiRe’s ethical critique calls for more-than-human approaches to break through the implementation asymmetries that privilege human health, to demonstrate the integral if fluctuating role of microbes in ecologies of health and disease (Cañada, Sariola and Butcher 2022).

The workshop brings together social science and humanities specialists to share stories and methods of living with AMR from their research, understood in this context as longer-term human-nonhuman-environmental-microbial relations and ecologies rather than invoking apocalyptic narratives of a post-antibiotic future. This exchange will include a discussion and planning of future directions in social science, humanities, and interdisciplinary AMR research.
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## Workshop Programme

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Presentation Abstracts

Tuesday, 23rd May

– INTRODUCTIONS –

Salla Sariola

Everything, Everywhere, All At Once: becoming with AMR
Andrea Butcher
University of Helsinki, Finland

Antimicrobial resistance, the evolutionary mechanism by which microbes acquire genetic protection against biological and ecological threats, has undergone a radical transformation in the last 150 years, a result of sustained exposure to industrial pollution, changing environmental conditions, and intensive drug use. Bacteria — their traits, capacities, temporalities and distribution — are so thoroughly transformed that today’s biosphere is very different to that of pre-industrial times (Gillings 2014; Landecker 2015). Claas Kirchhelle names this new biosphere an antibiocene: a new epoch of accelerating anthropogenic selection at a planetary scale. As biological and ecological condition of late industrialism and capitalism, AMR impacts everything, everywhere, all at once. However, it does not impact everything, everywhere all the same.

Tackling AMR requires sustained financial and technical intervention in the multiple sectors that support life and living today. Yet countries or localities with the highest burdens of AMR often lack the financial, technical and infrastructural capacities to intervene in everything, everywhere, all at once (Sariola et al. 2022). Furthermore, situated AMR ecologies have diverse multispecies interactions or value depending upon settings and economies (Cañada et al. 2022).

Taking as its premise AMR as a biosocial phenomenon, shaped by and evolving within interpenetrating social and biological processes, the Centre of the Social Study of Microbes’ project SoSAMiRe focused on different modes of living with AMR in diverse settings and sectors. This presentation will introduce the results of the Centre’s ongoing AMR research, whilst also reflecting on how the workshop’s papers illustrate that biosocial interpenetration. The collection takes One Health beyond policy implementation and technofix to fully consider how diverse political economies, sociotechnical imaginaries, and more-than-human agencies contribute to local AMR assemblages. The workshop demonstrates how — in the midst of late industrialism’s disturbances — different human societies become with (Haraway 2008) AMR in their varied but sustained microbial encounters, whether these be biological, ecological, conceptual, political, ethical or socioeconomic. In other words, everything, everywhere, all at once.

– LIVING WITH DRUG RESISTANCE –

The challenges of seeing antimicrobial resistance through the eyes of a fastidious and simple organism
Catherine Will
University of Sussex, UK

Mycoplasma genitalium (M. gen) is not visible under microscopy: it reproduces slowly so traditional cultures take at least 6 weeks. It is an extremely ‘simple’ bacteria, and yet it is linked to at least 250 genes. This paper explores the articulation of this history with the history of Neisseria gonorrhoea (N. gonorrhoea), exploring cross-national comparisons including research in Scandinavia, Switzerland and the UK. These frame my work to explore more deeply how race, radicalisation and the global distribution of the bacteria make research on these bacteria possible and help constitute or enact them as a relevant topic in antimicrobial resistance.
This means taking account of the ways in which when it was ‘discovered’ it was already resistant to common treatments — like azithromycin — that are used for N. gonorrhoea, so that currently testing and treating M. gen risks intensifying resistance. We also consider how global population distribution, level movements and migration affect AMR in M. gen, and how Indigenous groups and other minorities might be better protected from the stigma of this bacteria, discussing it as both a political and epistemic object. The methodology is mainly discourse analysis of scientific papers, supplemented with interviews with some of the key actors in each of the relevant countries.

AMR among bedridden patients in the margin of peri-urban communities in central Thailand
Luechai Sringernyuang (Mahidol University, Thailand)
Phakha Whanpuch
Panoopat Poompruk,
Clare Chandler (LSHTM, UK)
Anna Peris

Bedridden patients are vulnerable to various health complications like bedsores, circulation, respiratory problems, depression, and contractures, due to lack of activity for long periods and complications from the illness and health deterioration. The issues can be more severe among patients aged and from underserved families. Infection is very likely among those who are on medical equipment. Admission and readmission to the hospital due to health deterioration make these patients vulnerable to hospital-acquired infections (HAI) and antimicrobial resistance (AMR).

This paper shows how bedridden people struggle to live, journeying through deteriorating health, alternating days between home and the hospital ward, and fighting for life from sepsis, often complicated by AMR. This ethnographic work followed 16 bedridden patients in the Klai Jai peri-urban area nearby to Bangkok, Thailand over 21 months (May 2018 - January 2020). All but two of these patients lived alone or with an aging spouse, often in cheap rental rooms that were impossible to keep hygienic. Families lived far away or had already died. Most of them lived with only a little income (600-800 Baht/month) from a monthly stipend for older people or disabled people provided by the government. Their health problems usually began with chronic ailments like diabetes and hypertension and later developed to stroke or paralysis that led them finally being confined to a bed or at home. Some were lucky to have nephews or sisters to care for, feed, drive, or accompany them to the hospital when appointed or in an emergency. In this complex peri-urban context, the primary care service functions poorly and is difficult to reach. Essential medical services at home like the change of foley catheter and nasogastric tube, as well as the care for infected bedsores, were unreachable. By the end of our fieldwork only eleven of the patients remained still struggling for life, the lives of the others having ended with drug-resistant sepsis.

This paper highlights that infection of AMR among bedridden patients is a significant but hidden and under-investigated issue in this setting. A context-specific and well-developed primary care system that includes home visits, homeward, and an effective referral system to a higher level of service is crucially needed. AMR in bedridden patients is deeply embedded in the lives of the underserved, which is fuelled by the complex interplay of multi-level socio-economic forces in the peri-urban context.
Exploring households’ animals’ husbandry practices among rural households: A qualitative study in Nanoro, Burkina Faso

Adélaïde Compaore
Clinical Research Centre Nanoro, Burkina Faso
Institute of Tropical Medicine, Antwerp Belgium
Université Saint Louis-Bruxelles, Bruxelles, Belgium

The traditional animal husbandry which involved close contact of livestock with household members has been recognized as a cause of zoonotic diseases and the transfer of antibiotic resistance genes from livestock to animals ‘owners’ (Swarthout et al. 2022). To mitigate this risk, it is essential to understand breeding practices in households, the perception of risks involved and animal health care.

The present study was conducted in Nanoro, Burkina Faso. Eight group discussions were conducted with community members and seventeen semi-structured in-depth interviews were conducted with animal owners. Observations of animal keeping arrangements were carried out in visited households. The N’vivo 12 software facilitated thematic analysis.

Raising animals at home is considered economically, socially, and culturally valuable. To manage animals’ health, some owners have recourse to veterinarians, but the prescribed treatments are sometimes considered ineffective. Therefore, self-medication was common and included the use of “street drugs”, indigenous home remedies, and treatment rooted in mystical faiths. In addition, animals’ owners resort to other practices when there is no improvement. Animals are sold or killed when the issue of death becomes obvious. Dead animals are disposed of in the countryside. Regarding the perception of the risk of keeping livestock in households, most people believe that humans can be affected by animal’s diseases. The most reported route of contamination was direct contact. Indirect pathways of disease transmission to humans were through the dirt produced by animals within the household.

Our study showed that there is an awareness of the risks associated with disease transmission from animals to humans. Nevertheless, there is a discrepancy between people's perspectives on risks and their actual practices. Harmful practices are driven by traditional beliefs, misconceptions and financial interests.

Tackling complex problems through standardization? The case of antimicrobial resistance in the poultry sector in Burkina Faso and Ghana

Carine Baxerres
Research Institute for Sustainable Development LPED - Aix-Marseille University (France)

This presentation is based on an anthropological study conducted within a multidisciplinary research programme (also involving microbiology and epidemiology) on the transmission of antibiotic resistance from animals to humans via the poultry food chain in the Ashanti region of Ghana and the Mouhoun loop region of Burkina Faso. In 2021-22, we conducted ethnographies of six semi-intensive chicken farms in the town of Agogo (Ashanti region, Ghana) and five in Burkina Faso (Ouagadougou and Nouna), during which we conducted participant observations and free and semi-directive interviews. The data collected provide an opportunity to describe the current social, economic and health issues of the poultry sector in these two countries.

We will first describe the shifting categories that construct local imaginaries on poultry and that involve 'local birds' (both local breeds of chicken and locally reproduced European breeds) that are 'robust', 'not very susceptible to infection' and sometimes 'better' in terms of taste, and 'imported birds' (chickens imported directly from Europe or breeds originating in Europe) that are 'productive but fragile' and also sometimes of
'better quality'. This will allow us to describe the different poultry chains present in Agogo, starting with "day old chicks" flown in from Holland, Belgium or Spain, via European and then Ghanaian distributors, or hatched in Ghana, then raised in Agogo's semi-intensive farms, either family-run or involving employees, to be sold - as eggs or live chickens - in local markets in the city and region, usually involving at most a single intermediary (market dealer).

We will thus analyse the constraints of this food value chain, which is vulnerable to bacterial infections, and whose inputs (food, animals, medicines) are mostly globalised and subject to market fluctuations, while the outlets are local. Animal health professionals are scarce, expensive and their knowledge is heterogeneous.

**Tackling complex problems through standardization? The case of antimicrobial resistance in the poultry sector in Burkina Faso and Ghana**

Anastasia Seferiadis  
(LPED : IRD / Aix-Marseille Université)

The rise of “superbugs” – that is microbial infections for which drugs no longer show efficacy - is seen as a global threat which leads to the development of interventions, policies or global strategies aimed at tackling “antimicrobial resistance”.

This presentation is based upon ethnographic field work carried in farms in Burkina Faso and in Ghana as part of an international and interdisciplinary research programme aimed at designing an intervention to mitigate AMR. We studied five semi-intensive farms in Burkina Faso and six in Ghana, conducted participant observations and in-depth interviews with farm workers and owners as well as community members. Our case-studies highlight how semi-intensive farms, which use antibiotics and can be faced with animal diseases caused by AMR, are nonetheless interesting models in the perspective of sustainable agro-food production, for example waste is recycled within the farms and many practices of “care” within the farm towards its workers but also the animals raised can be observed.

We are therefore led to ask how interventions aimed at mitigating AMR can take into account local realities of farmers in Burkina Faso and Ghana. AMR highlights how human health, animal health and environmental health are intertwined and interdependent. Antimicrobial resistance can thus be analysed as a problem of porosity between fields: bacteria and antimicrobial drugs circulate through the environment, between species, along the agro-food chain, or between countries. On the one hand, it is a socio-ecosystemic problem which has led to intersectorial dialogue across the world through the “One Health” perspective. However, on the other hand, this has led to institutional responses and policies which propose measures of regulation and standardization of practices in order curb the rise of AMR. In particular, in the farming sector, these policies (and veterinaries) promote protocols for establishing barriers to constrain the circulation of microbes through the concept of “biosecurity”.

However, the semi-intensive farms we studied are not characterized by a protocolization of procedures. These farms, instead, raise different types of animals and combine a variety of activities, exhibit a plurality of practices both across farms but also across time, and display an “art of getting by” based upon dynamic and localised knowledge and experiences. Against this background, it can be asked whether these semi-intensive farms constitute “liminal practices” of food production where novel imaginaries for alternative sustainable food production system are elaborated, rather than a step towards a modernization and industrialization of livestock farming.
Antimicrobial resistance (AMR) has become one of the defining challenges of the 21st century. Food production and farming account for well over half of annual global consumption of antimicrobials, with the result that the sector’s potential to contribute to AMR is large even if its role in resistance emergence and transmission is subject to uncertainty. Acting in a climate of potential rather than demonstrable threats requires social and technical innovation. In this paper we engage with the role of market actors, or virtual consumers, and associated devices in the precautionary regulation of farming practices and AMR threats. The paper takes the UK poultry sector as exemplary of a device- and audit-led process that has achieved notable and impressive reductions in antimicrobial uses. Using qualitative interview data with farmers and veterinarians we chart the changing farming, diagnostic and health practices that have accompanied this reduction in routine treatments. Contrary to some commentators, we use this analysis to raise some cautions around audit-led systems of regulation. Audits can lock farms and animals into particular versions of farming and animal health; they can produce distortions and elevate otherwise harmful compensatory practices; and they can reproduce an actuarial approach to an issue that may not fit the conventions of risk management. The paper presents the considerable successes that have been achieved over a short period of time in a livestock sector, while generating significant notes of caution concerning the manageability of livestock related AMR threats.

AMR, the missed opportunity? When reducing the use of antimicrobials in livestock farming strengthen agri-vet capitalism
Nicolas Fortané
National Research Institute for Agriculture, Food and the Environment (INRAE), Université Paris-Dauphine (France)

The use of antibiotics in livestock farming has been considerably reduced over the last decade in Europe. This reduction is regularly associated in public discourse, by both state authorities and agricultural stakeholders, with the promise of an agro-ecological transition. The reduction in the use of antibiotics would thus be the sign of a transformation of production modes towards more sustainable systems that respect values such as public health, animal welfare and the environment.

However, this fetish for consumption or prescription data conceals the reality of the agricultural and veterinary practices underlying it: even though it is true that fewer antibiotics are being used than 10 years ago, sometimes much fewer, this result has been obtained at the cost, not of an agro-ecological transition, but of a strengthening of agro-veterinary capitalism. Various surveys conducted as part of a European project show how (1) antibiotic reduction strategies have encouraged intensification and increased industrialisation of livestock systems and (2) they have favoured the concentration of the animal health market in the hands of veterinary corporate groups capable of maintaining their profitability. This presentation focuses on the French case.

Firstly, the development of so-called 'antibiotic-free' labels has been based on a dual process of intensification and industrialisation. On the one hand, this reduction in the use of antibacterial drugs was made possible by optimising other agricultural inputs and breeding techniques that reinforced the intensive production system (vaccination, biosecurity and building management, animal confinement, genetics, feed, etc.). On the other hand, the specifications linking farmers, cooperatives and distributors of 'antibiotic-free' products reinforce the technical and economic dependence of the upstream actors on the downstream actors, favouring the model of industrial integration of the agri-food sector.
Secondly, the animal health market has followed a parallel dynamic of concentration. As veterinary practices have historically been economically dependent on the sale of antibiotics, they have had to develop alternative sources of income as these sales have declined. Those that have done well are those that have been able to diversify their service offering and monetise new activities, in particular technical advice, bacteriological analysis, hygiene and nutrition products and training. These companies have often formed corporate groups in order to buy up a growing number of practices and to impose themselves on a competitive and fast-growing market, ensuring the emergence of a veterinary capitalism backed by this movement of intensification and industrialisation of livestock farming described above.

In the end, the fight against AMR is a missed opportunity in the sense that the reduction of antibiotics is not embodied in an agro-ecological transition, but rather shows a form of resilience of agro-veterinary capitalism capable of neutralising the social critiques brought against it in order to better reinforce itself. In other words, everything changes so that nothing changes.

Wednesday, 24th May

— METHODS —

Challenges of implementing the photo elicitation method in Benin
Les défis de la mise en œuvre de la méthode d’élicitation photographique au Bénin
Mariette Aïkpé, Laboratory of Applied Medical Anthropology, University of Abomey-Calavi (Benin)
Kevin Sintondji Unité de Recherche en Microbiologie Appliquée et Pharmacologie des substances naturelles (URMAPha), University of Abomey-Calavi (Benin)

Benin is one of low-income countries of West Africa with inadequate water and sanitation infrastructures. This situation constraint the population to adopt practices around water sources which are hot spots for antimicrobial resistance and its spread. Thus, antimicrobial resistance is both a biological and a social phenomenon, and understanding it can help authorities improve the current water, sanitation, and hygiene situation in Benin communities. This is why the SoSaMiRe (Social Study of Antimicrobial Resistance: Healthcare, Animals and Ethics) project seeks to understand the daily activities of the population and their experiences with water in the Abomey-Calavi district. This allows the identification of social practices that may contribute to the spread of antimicrobial resistant microorganisms. In contrast to the classic interview method generally used in Benin in the social sciences, the photographic elicitation method was used by the field team to collect information on social practices. Although this participatory visual research method has significant advantages, its implementation has generated challenges that the field team had to face. This communication demonstrates the value of this method and lists the main difficulties encountered during the surveys in the Beninese context.

Mixed methods in social-scientific studies of antimicrobial resistance: A meta-analysis of rationales, merits, and challenges
Gutu Olana Wayessa
University of Helsinki (Finland)

Researchers in public health have increasingly applied mixed methods (MM) in their studies, involving the integration of qualitative and quantitative methods. This is true also in social-scientific studies of antimicrobial resistance (AMR), especially in recent years. Through a meta-analysis of existing MM research in AMR, this paper attempts to synthesize the rationales, merits, and challenges of employing an MM approach. It involves the identification of peer-reviewed journal articles that use the terms "mixed methods" and "antimicrobial resistance" in their titles and/or abstracts. Published during the last five years, the articles
should be accessible through several databases, including Web of Science, International Bibliography of the Social Sciences (IBSS), PubMed, Sociological Abstracts, and Scopus. I will use rationale, merit, and challenge (and their variants) for coding and heuristic analysis. By mapping the range of purposes, benefits, and challenges of MM research in AMR, I aim to contribute to an innovative application of MM in an interdisciplinary study of AMR. While synthesizing the merits of MM may encourage capitalizing on the merits, identifying challenges may inspire devising ways to circumvent them, or make informed methodological choices otherwise.

– BECOMING WITH AMR –

Expanding what it means to live with AMR: Antibiotic resistant genes in the environment
Alicia Ng
University of Helsinki (Finland)

Antibiotics are not just used on microorganisms, but are derived from microorganisms themselves. Microorganisms such as bacteria use antibiotics to protect themselves, to exterminate surrounding neighbors, and allow them to colonize and dominate different habitats. Bacteria can host and share antibiotic resistant genes (ARGs), which are the biological mechanisms upon which AMR is such a problematic issue for humans today. Occurring further afield than well-known human environments that select for ARGs such as hospitals and wastewater treatment plants, growing scientific evidence shows that ARGs can be triggered not just by antimicrobials but from other sources, such as heavy metals. This broadens considerations surrounding human-nonhuman entanglements that go beyond typical understandings of AMR promulgation. It also highlights the tensions and connections between the need for sustainable solutions to environmental crises, such as heavy metal pollution, while tackling human health crises like AMR. While certainly concerning, this illustrates the need for broader conceptualizations of human-nonhuman-environmental-microbial relations in order to address potential epistemic blindness. This presentation is a short distillation of concerns I have come across in my own PhD work on bioremediation, a method that uses microbes to clean up pollution and is heralded as a green, sustainable, and non-human centered remediation technique, and my work with the multidisciplinary project FIMAR to research drivers of AMR transmission, evolution, and distribution.

More-than-human ethics and the politics of global AMR policy implementation in West Africa
Jose Cañana
University of Exeter (UK)

The phenomenon of antimicrobial resistance (AMR) brings renewed opportunities to understand the connections between global health and locally situated social materialities. Like other global health areas, AMR is not alien to North-South dynamics of inequality and colonialism. However, AMR poses specificities worth exploring. Most prominently, its One Health framing has led WHO to cooperate with FAO and OIE, going beyond its traditional area of action. Accordingly, the heterogeneous networks that characterise global health infrastructure expand to include actors from animal and environmental health sectors, including nonhumans like animals, plants, or water bodies. From an STS perspective, this requires a more-than-human outlook that has not always been central in analyses of global health infrastructure (with important exceptions like zoonoses), providing insights that go beyond usual humanist perspectives. The multisectoral ambitions of AMR initiatives often encounter asymmetries in capacity between sectors, especially in the areas of surveillance, data production, and guideline enforcement support, key elements to compensate for the lack of data and understanding of AMR as an emerging phenomenon. This translates into a lack of scalable recommendations and the difficulty to implement plans locally to support relevant actors like policy makers,
scientists, doctors, veterinarians, breeders, and patients. This presentation uses material gathered by following these actors in West Africa to argue a more-than-human perspective committed to multispecies relationships beyond the limits of the human-centred One Health approach, which often present data, individual responsibility and reduced antibiotic use as the only alternatives to the challenge of AMR.

Towards New Bioethical Frameworks: Exploring Justice, Vulnerability and Care Living with AMR
Tiia Sudenkaarne
University of Helsinki (Finland)

Antimicrobial resistance (AMR) has been declared by the WHO as one of the top ten global public health threats facing humanity. Moreover, however, it seriously endangers the health, wellbeing and survival of ecosystems and more-than-human-animals, jointly considered as more-than-humans. Yet ethical contemplation of this threat has almost exclusively focused on the impact of change in the use of antimicrobials on human health, although what is needed is a radical reorientation of ethical frameworks of AMR (Cañada, Sariola & Butcher 2022).

From a moral philosophical viewpoint, it can be argued that humans are exceptionally accountable for AMR. Yet moral components like accountability, rights, duties and principles in their dominant frameworks seem to offer dissatisfying solutions to multispecies living with AMR; often theoretically inconsistent and their solutions irreconcilably unjust in practice. Indeed, AMR presses urgent dilemmas that consistently raise the most difficult ethical questions: how to manage conflicting more-than-human interests with human interests with intersecting vulnerabilities, in an ethically sustainable way? I discuss how these issues could be addressed through justice as an ethical principle. In dialogue with concepts of reproductive justice, multispecies justice, ecojustice and against a backdrop of relational metaphysics, I offer my queer feminist posthumanist framework to contribute to AMR ethics. In addition to justice and vulnerability, I also consider care as a conceptual tool for further research within my queer feminist, posthumanist framework.
Speaker biographies

Mariette Aïkpé

Mariette Aïkpé is a junior researcher in health anthropology at the Laboratory of Applied Medical Anthropology (LAMA) of the University of Abomey-Calavi in Benin. She holds a post-graduate degree in sociology-anthropology. She has acted as research assistant for many research programs including Health Equity programs, Palevalut and EbBen, for which she investigated the management of suspected Ebola cases at Benin’s National Hospital and University Center (CNHU). She has previously collaborated as research assistant on three projects for the University of Helsinki, including Socialities of a Vaccine Trial: Bacteria, Tourists, Local Communities and Scientists in Benin (SCRIBE), Antimicrobials in West Africa (AMRIWA), and SoSaMiRe. For the later, she participated in documenting people’s daily experiences with water, hygiene and sanitation in two sub-districts of Abomey-Calavi (Bénin) using photo elicitation. Mme Aïkpé has received training in the production of participatory videos for health and AMR research from the University of Helsinki. She continues to provide consultancy services to several structures and research centres. She is a member of the Beninese society of socio-anthropology.

Carine Baxerres

Carine Baxerres is a medical anthropologist and researcher at the French Research Institute for Sustainable Development (LPED - Aix-Marseille University). Since more than 20 years, she has been conducting research on health care behaviours, and global and local pharmaceutical markets in West Africa (Senegal, Benin, Ghana, Burkina Faso) and southeast Asia (Cambodia, Laos). Her research has focused on self-medication of daily health issues, infections and reproductive health. She is interested in pharmaceutical markets, more specifically the circulation (including cross-border), distribution (retailer and wholesaler) and uses of medicines. She is also interested in questions of pharmaceutical production as well as in the different modes of regulation that govern pharmaceuticals. She led a research program on those issues funded by the European Research Council (GLOBALMED, 2014-2020) and co-published a collective book from this research: https://www.taylorfrancis.com/books/oaidit/10.4324/9780429329517/understanding-drugs-markets-carine-baxerres-maurice-cassier.

Dr Baxerres currently works on antimicrobial resistance, standardised phytotherapy and links between human economical activities and animal and environmental health. She co-leads a research program on AMR in Ghana and Burkina Faso with colleagues in microbiology and socio-epidemiology (AMR B CHANGE, 2020-23) funded by French ANR and German BMBF.

Andrea Butcher

Andrea Butcher is a social scientist with expertise in the social study of AMR. An anthropologist by training, her background lies broadly in development studies combined with Science and Technology Studies. Since 2017 she has collaborated on multidisciplinary international projects examining AMR in the context of global development, with fieldwork in South Asia and West Africa. Andrea’s AMR interests move beyond antibiotic use to think more broadly of resistance as a global phenomenon intertwined in locally and historically situated arrangements of markets, technologies, politics, ideas, practices and matter. She currently acts as University Researcher in Sociology for the Finnish Multidisciplinary Centre of Excellence for AMR (FIMAR), and is a member of the Centre for the Social Study of Microbes.

Jose A. Cañada

Jose A. Cañada is a multidisciplinary social scientist with an emphasis on Science & Technology Studies (STS). Their research has focused on studying knowledge production and material practices associated with socio-technical controversies and a variety of policy issues, working on topics such pandemic preparedness and response, biobanking, marine conservation and the development of water infrastructures. An overarching
interest on more-than-human approaches has translated into an interest for human-microbial-environment relations, having researched the development and implementation of antimicrobial resistance policy in West Africa with a special focus on scientific practices and ethics.

Adélaïde Compaoré

I joined the Clinical Research Unit of Nanoro (CRUN) in Burkina Faso as a research fellow in social science. Since then, I have been actively involved in the implementation of research projects addressing a variety of health concerns such as malaria, malaria in pregnancy, nutrition, and antibiotic resistance. My contributions in these domains were particularly focused on the application of qualitative methods.

Besides these activities, I am undertaking a sandwich PhD program sponsored by the Belgian government’s Directorate-General for Development Cooperation and Humanitarian Aid through the Institute of Tropical Medicine (ITM) in Antwerp Belgium. My research topic entitled “Understanding antimicrobials use: A mixed methods research of rural communities in Burkina Faso” aims to understand the cultural and socioeconomic conditions that drive antibiotic use in rural Burkina Faso. The research is being supervised collaboratively by the CRUN (Burkina Faso), ITM (Belgium), the University of Helsinki (Finland), and the University Saint Louis-Bruxelles (Belgium).

Nicolas Fortané

Nicolas Fortane is a sociologist at INRAE and Paris-Dauphine University. His work focuses on animal health and the veterinary profession. He currently leads several projects on antimicrobial resistance (AMR) and the use of antibiotics in animal farming, aiming at better understanding the regulation of the veterinary drug market and the role of the livestock industry in the design of AMR policies. His future projects will investigate similar issues in a “One-and-Global Health” perspective.

Steve Hinchliffe

Steve Hinchliffe is Professor of Human Geography at the University of Exeter, UK and a Fellow of the Academy of Social Sciences. His books include Pathological Lives (2016, Wiley Blackwell) and Humans, animals and biopolitics: The more than human condition (2016, Routledge) and he has published numerous papers and chapters on One Health, AMR, biosecurity, Science and technology studies and human-nature relations. He currently works on interdisciplinary projects on disease, biosecurity and antimicrobial resistant infections, focusing on Europe and Asia. He is a member of the Wellcome Centre for Cultures and Environments of Health at Exeter, and as well as serving on SAC-ED, until recently he was a member of DEFRA’s Science Advisory Group’s Social Science Expert Group.

Alicia Ng

Alicia Ng is a PhD researcher at the University of Helsinki. She is part of the Sociology team (PI Salla Sariola) in the Finnish Multidisciplinary Center of Excellence in Antimicrobial Resistance Research (FIMAR) and a member of the Centre for the Social Study of Microbes (CSSM). Alicia is conducting her PhD work in the interdisciplinary environmental sciences, with a research focus on the multispecies human and non-human entanglements present amongst microbes used for bioremediative purposes to clean up anthropogenic soil pollution.

Salla Sariola

Salla Sariola is a Professor of Sociology and the director of the Centre for the Social Study of Microbes at University of Helsinki. Her current research on the social study of microbes includes exploring changing scientific practices on environmental microbes and antimicrobial resistance as well as developing fermentation as an experimental research method. She is the author of four books and her fieldwork has
taken her to feminist, queer and HIV activist movements in India and Kenya, laboratories in Sri Lanka, Benin and Burkina Faso, as well as fermentation enthusiasts in Finland and the Northeast of India.

**Anastasia Seferiadis**

Anastasia Seferiadis is a social scientist working from a transdisciplinary perspective on gender and agriculture and interested in participatory approaches to knowledge development. After a training in Biology, she earned a PhD in transdisciplinary research focusing on social entrepreneurship in the agricultural sector in rural Bangladesh. She has since continued her work in South Asia (India) and Africa (Ghana, Madagascar and Senegal) studying alternative economic models, gender discrimination and transition mechanisms towards agroecology practices. Currently a post-doctoral fellow at the French Research Institute for Sustainable Development (LPED/ Aix-Marseille University), she works in a multidisciplinary research programme on the circulation of antibiotics and AMR within farms and households in Burkina Faso and Ghana, with the aim of developing interventions for mitigating AMR.

**Kevin Sintondji**

I am a microbiologist at the Research Unit in Applied Microbiology and Pharmacology of Natural Substances (URMAPha) (Benin). I am interested in the application of molecular biology techniques and bioinformatics analysis to gain knowledge on the evolutionary relationships and geographical distribution of antimicrobial resistance. From 2020 to 2021, I worked as research assistant at the University of Helsinki on the multidisciplinary collaborative research project Antimicrobials in West Africa (AMRIWA). I have also been involved in research on interventions and implementation of antimicrobial resistance control in low- and middle-income countries (LMICs). Recently, I have developed a strong interest in the behavioral sciences related to antimicrobial resistance, as they provide valuable information on the social and cultural factors that influence antibiotic use and resistance development. I participated as a research assistant on the SoSAMiRe research team, which conducted studies into the social aspects of AMR in Benin.

**Luechai Sringernyuang**

Luechai Sringernyuang is an Associate Professor in medical anthropologist, Director of Contemplative Education Center at Mahidol University, Thailand. His research and teaching focus on qualitative methodology, pharmaceutical anthropology, the anthropology of infections and chronic diseases, accidents, and HIV/AIDS. In the past, he has been an advisor to the Asian Development Bank, a consultant for the Thai Ministry of Health, and an external expert on Information, Education, and Communication and Behaviour Change Communication in a WHO country review team of a malaria control programme in Nepal. He has published in a number of Thai science journals and has served as the principal investigator for research projects spanning various disciplines – from sociocultural and behavioural aspects of leptospirosis infection to salt consumption and hypertension. Luechai received his PhD in medical anthropology from the University of Amsterdam on ‘Pharmaceutical Anthropology: Availability and Use of Modern Pharmaceuticals in Rural Thailand’. In addition, he has conducted and published anthropological research on community antimicrobial use and perceptions with Komatra Chuengsatiansup. As co-investigator on the AMIS Hub project, he leads and oversees the Nakorn Pathom ethnographic component of the project in Thailand. His research will focus on the anthropology of pharmaceuticals and care and will partly involve a comparison with his previous research on community drug use.

**Tiia Sudenkaarne**

DrSocSci, MA, Tiia Sudenkaarne is a postdoctoral researcher at University of Helsinki and Tampere University, Finland. Her main research interests include bioethics, queer feminist philosophy, analytical philosophy, moral theory and social justice, all of which also reflect her approach to antimicrobial resistance.
Gutu Olana Wayessa

Gutu Olana Wayessa earned Ph.D. in Social Sciences (major in Development Studies) from the University of Helsinki. Currently, he is a university researcher in Sociology, Faculty of Social Sciences, University of Helsinki, Finland. Previously, he was a postdoc researcher at the University of Luxembourg and University of Helsinki, and a university lecturer in Global Development Studies at the latter. Gutu has undertaken innovative research in the political ecology of displacement and resettlement, land governance, environmental-social justice, rural livelihoods, and multiple dimensions of marginalization and their intersectionality. Interdisciplinarity and mixed-methods approach, involving integrating quantitative and qualitative methods, are the hallmarks of his research. In his current post, Gutu explores and examines socio-economic factors, institutional and policy imperatives, and development indicators relevant to antimicrobial resistance (AMR), within the sociology component of the AMR Center of Excellence, at the University of Helsinki.

Catherine Will

My research examines social and health care organisations and technologies, drawing on Science and Technology Studies (STS) and political sociology. I am particularly interested in knowledge production - how people experiment or develop their understanding of their world - and the moments when knowledge claims are linked with the negotiation of standards or policies, but also seeks to explore situations that are more about caring and doing than knowing including political mobilisation and social action. I have been ill but am now back on research leave working on a Wellcome Investigator Award with the title 'Marginalisation and the microbe: how can we attend to health inequalities while mobilising against antimicrobial resistance', using interviews and discourse analysis in the main.
Travelling around Helsinki

Helsinki has an excellent public transport system. You can find information from the regional transport authority — HSL — here: https://www.hsl.fi/en. It is possible to buy day tickets at the R-Kioski, or the HSL office in Central Station. Alternatively, you can download the HSL app and book tickets that way. However, once in the City Centre everything is in walking distance.
Travelling around Helsinki (cont.)

**Helsinki Vantaa Airport Transfers**

*Taxi*: Taxis from the airport cost approximately 50€. Find more information about booking airport taxis at [https://helsinkiairport.org/helsinki-airport-transfers/taxi/](https://helsinkiairport.org/helsinki-airport-transfers/taxi/)

*Train to Helsinki Central Station*: Trains leave approximately every 10 minutes and take approximately 30 minutes. You can buy tickets from one of the machines on the platform, at the Alepa or R-Kioski stores in the airport terminal, or download the HSL app. Chose travel zone ABC. Price is 4.10€. Find more information at [https://helsinkiairport.org/helsinki-airport-transfers/train/#/search](https://helsinkiairport.org/helsinki-airport-transfers/train/#/search)

*Bus to Helsinki Central Station*: The No. 600 bus leaves regularly from Platform 10 to Central Station every and takes approximately 40 minutes. As with the train, tickets can be purchased from one of the machines, at Alep or R-Kioski, or by downloading the HSL app. Chose travel zone ABC. Price is 4.10€. Find more information here: [https://www.finavia.fi/en/airports/helsinki-airport/access?navref=main&id=](https://www.finavia.fi/en/airports/helsinki-airport/access?navref=main&id=)

**Around Helsinki**

Once in the City Centre, it is very easy to walk between the hotels, the workshop venue, and the restaurant where we will have the workshop dinner. However, those staying at Töölö Towers may prefer using public transport options.

**Central Train Station to Töölö Towers Restaurant Lasipalatsi**

*Tram*: take tram numbers 1,2,4 and 10 from Apollonkatu to Lasipalatsi

**Töölö Towers to Fabianinkatu 24**

*Tram*: take tram number 4 from Apollonkatu to Senaatintori

**Töölö Towers to Restaurant Lasipalatsi**

*Tram*: take tram numbers 1,2,4 and 10 from Apollonkatu to Lasipalatsi

**Original Sokos Hotel Vaakuna to Fabianinkatu 24**

*Metro*: take the metro one stop from Rautatientori to Helsingin Yliopisto. Take the metros heading in the direction of Vuosaari or Mellunmäki
Eating Out

Restaurants (included in workshop programme)

The workshop dinner will be hosted on Tuesday, 23rd May by Ravintola Lasipalatsi, Mannerheimintie 22-24
https://www.ravintolalasipalatsi.fi/?lang=en

We will eat lunch on Wednesday, 24th May at Ravintola Sofia (https://sofiahelsinki.fi/sofia-ravintola-ja-cafe-bar/)

Places to eat (not included in workshop programme)

There are several large shopping centres in the City Centre where you could find reasonably affordable eateries:


https://www.kluuvi.fi/ravintolat-ja-kahvilat/


Here are some places around the City Centre recommended by the CSSM network:

Putte’s Bar & Pizza, Kalevankatu 6, 00100

Restaurant Big Bowl Noodle, Malminrinne 2-4, 00100

Mei Lin Sichuan Restaurant, Annankatu 29, 00100

Places to eat and drink centrally with outside space

Daddy Green’s Pizzeria, Isorobertinkatu 26, 00120

Morton’s Burgers and Salads, Ruoholahdenranta 8, 00180

Ravintola Manala, Dagmarinkatu 2, 00100

Woolshed Aussie Bar, Töölönlahdenkatu 3B, 00100